



# Australian Bureau of Statistics

## **6239.0 - Barriers and Incentives to Labour Force Participation, Australia, Jul 2008 to Jun 2009**

Previous ISSUE Released at 11:30 AM (CANBERRA TIME) 08/12/2009

---

## **Summary**

### **Main Features**

#### **NOTES**

##### **ABOUT THIS PUBLICATION**

This publication presents information about people aged 18 years and over who are either not employed or who usually worked less than 16 hours. In respect of employed people, the Barriers and Incentives to Labour Force Participation topic collects data only for those working less than 16 hours, as they have the potential to increase their labour force participation by a greater amount. The data collected provides information on the potential labour force and the characteristics of that potential labour force. Data from this survey are used to obtain a better understanding of the factors that influence people to participate (more) in the labour force and the hours they work. By identifying the barriers that people face in joining the labour force or in working greater hours, a range of incentives to increase labour force participation and hours worked may then be identified.

The statistics in this publication were compiled from the Multipurpose Household Survey (MPHS), conducted throughout Australia during the 2008-09 financial year, as a supplement to the Australian Bureau of Statistics (ABS) monthly Labour Force Survey.

Information on the other topics collected in the 2008-09 MPHS can be found in paragraph 1 of the Explanatory Notes.

##### **CHANGES IN THIS ISSUE**

New content was included in the 2008-09 survey to explore incentives to join or increase participation in the labour force and self assessed health. See table 14 and paragraphs 22 and 24 of the Explanatory Notes for more information. For a full list of data items, see the Appendix. Minor changes have been made to some tables in order to expand content.

##### **NOTES ABOUT ESTIMATES**

The MPHS was designed primarily to provide estimates at the Australia level. Broad estimates are also available for states and territories, although users should exercise caution when using estimates at this level, because of the presence of high sampling errors. For further information about the reliability of the estimates see paragraph 14 of the Explanatory Notes.

Sample reductions in the Labour Force Survey, (see Information Paper: **Labour Force Survey Sample Design, Nov 2007 (Second edition)**) (cat. no. 6269.0), resulted in the MPHS being marginally smaller than the sample size in 2006-07.

## **ROUNDING**

As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

## **INQUIRIES**

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Labour Market Section on Canberra (02) 6252 7206.

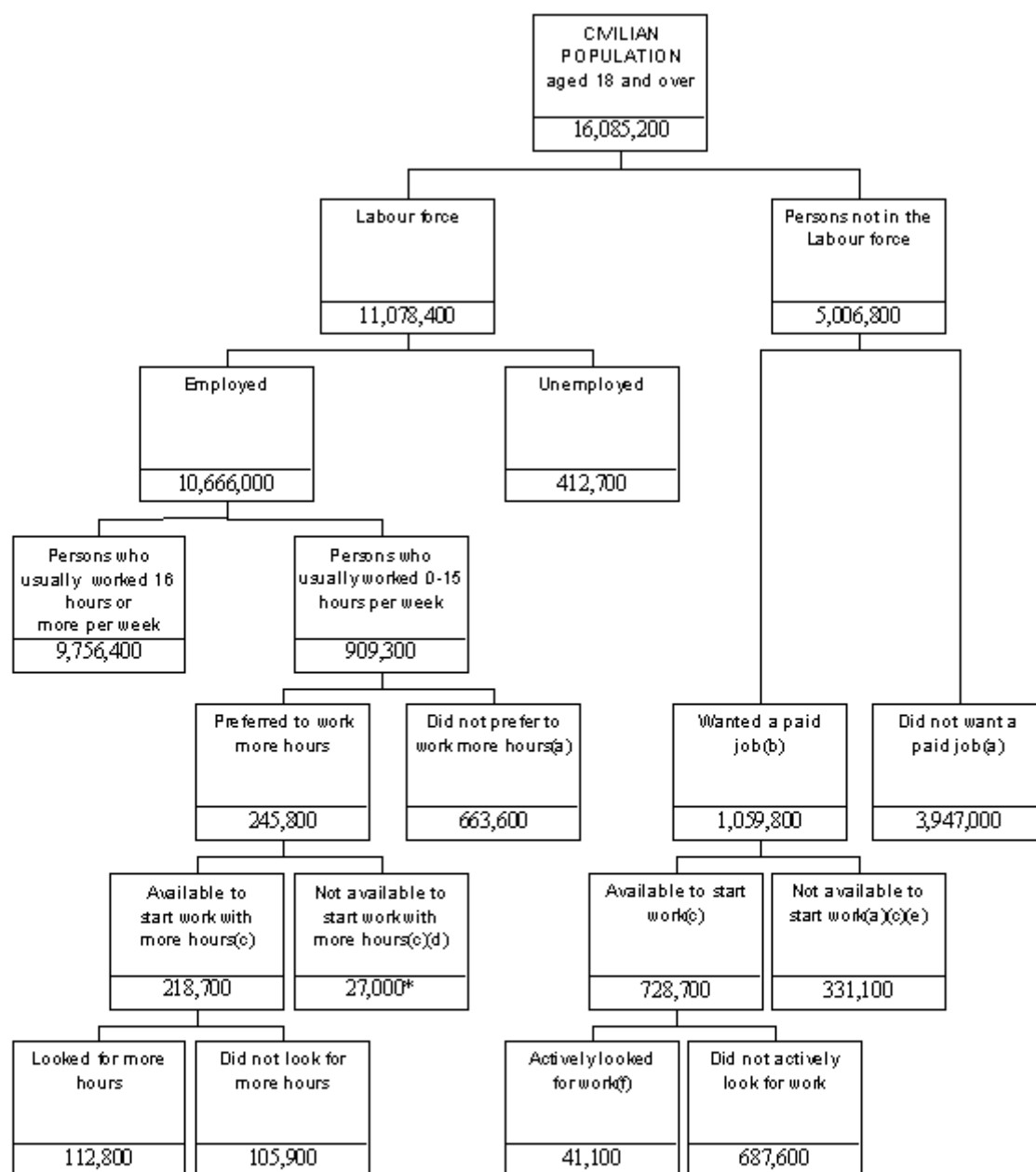
# **Conceptual Framework**

## **CONCEPTUAL FRAMEWORK**

### **OVERVIEW**

In attempting to understand the barriers to increased labour force participation there are several groups of people who are of particular interest. These are the unemployed, persons not in the labour force and those who usually worked less than 16 hours. For persons not in the labour force and those who usually work less than 16 hours it is important to ascertain whether they would like a paid job or more hours, whether they are available to start work, and whether they are looking for work. The conceptual framework below identifies these groups of people.

Note: The effects of rounding has resulted in component populations not necessarily adding to the parent population.



\* estimate has a relative standard error of 25% to 50% and should be used with caution

(a) Includes people who reported 'Did not know'.

(b) Includes people who reported 'Maybe/It depends'.

(c) Availability refers to reference week or within four weeks.

(d) All of this group reported that they did not look for more hours.

(e) Of this group, 15,500\* people actively looked for work and the remaining 315,600 people did not actively look for work.

(f) These people were not available to start work in the reference week so they are defined as not in the labour force rather than unemployed.

## Summary of findings

### SUMMARY OF FINDINGS

#### OVERVIEW

The 2008-09 Multipurpose Household Survey (MPHS) revealed that of the 16.1 million people aged 18 years and over, there were 6.3 million people who were not employed or who worked less than 16 hours. This group comprised people not in the labour force (5

million), the unemployed (412,700 people) and people working less than 16 hours (909,300 people).

Of those 6.3 million people, approximately 1.7 million (or 27%) indicated that they would like a job or to work more hours. This group comprised:

- 1,059,800 (or 62%) people who wanted a paid job but were not in the labour force;
- 412,700 (or 24%) people who were unemployed; and
- 245,800 (or 14%) people who usually worked less than 16 hours per week but wanted to work more.

The remaining 4.6 million people (or 73%) did not want a job or did not want to work more hours, or were undecided.

## **PEOPLE WHO WANTED A JOB OR MORE HOURS**

There were 1.7 million people who wanted a job or preferred more hours. Determining whether these people are available to work is important because those who are available have a greater potential to participate or increase their participation in the labour force than those who are not available.

Of the 1.7 million people who wanted a job or preferred more hours:

- 1.4 million people were available to start work within four weeks. Of these:
  - 793,500 people were not looking for work or more hours; and
  - 566,600 people were looking for work or more hours.
- 358,100 people were not available to start work or work more hours within four weeks.

Women represented nearly two thirds (64%) of those who wanted a job or preferred more hours. This reflects the fact that more women are underemployed or not in the labour force than men.

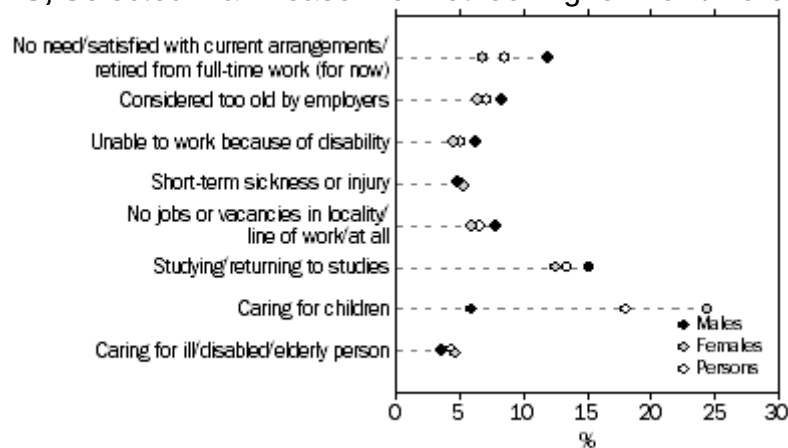
### **Available but not looking for a job or work with more hours**

Of the 1.4 million people who wanted a job or more hours and were available to start work within four weeks, an estimated 793,500 people (58%) indicated that they were not looking for a job or more hours. Most of this group were women (524,500 or 66%) and most were not in the labour force (687,600 or 87%).

'Caring for children' was the most commonly reported main reason for not looking for work or more hours (143,600 people). Women comprised the majority of this group (89% or 127,800) and 67% of women who gave that response were in the 30-54 year age group. For those people who cited 'caring for children' as their main reason for not looking for work or more hours, 77,200 people (54%) reported they 'preferred to look after children' as the main reason for this, while 22,700 people (16%) reported 'cost/too expensive'.

Another commonly reported main reason for not looking for work or more hours was 'studying/returning to studies' (106,500 people). Most people who reported this (76% or 80,600) were aged between 18 and 29 years, with 41% in this age group citing it as their main reason.

## PERSONS AVAILABLE BUT NOT LOOKING FOR A JOB OR WORK WITH MORE HOURS, Selected main reason for not looking for work/more hours



### Available and looking for a job or work with more hours

There were 566,600 people who wanted a job or more hours, were available, and were looking for work or more hours, of whom:

- Over half (57%) were women;
- 412,700 were unemployed (73%);
- 112,800 usually worked less than 16 hours (20%); and
- 41,000 were not in the labour force (7%) (these people are defined as not in the labour force rather than unemployed because they were not available to start work in the reference week, but were available to start within four weeks).

Overall, the main difficulty in finding a job reported by people who were available and looking for a job or work with more hours was 'lacks necessary training/qualifications /experience' (108,000 people or 19%). Over half of those who reported this (53%) were women. 'No jobs with suitable conditions/arrangements' was another commonly reported difficulty (79,100 people or 14%), and 69% of those reporting this were women.

### PERSONS AVAILABLE AND LOOKING FOR A JOB OR WORK WITH MORE HOURS, Selected main difficulty finding work/more hours

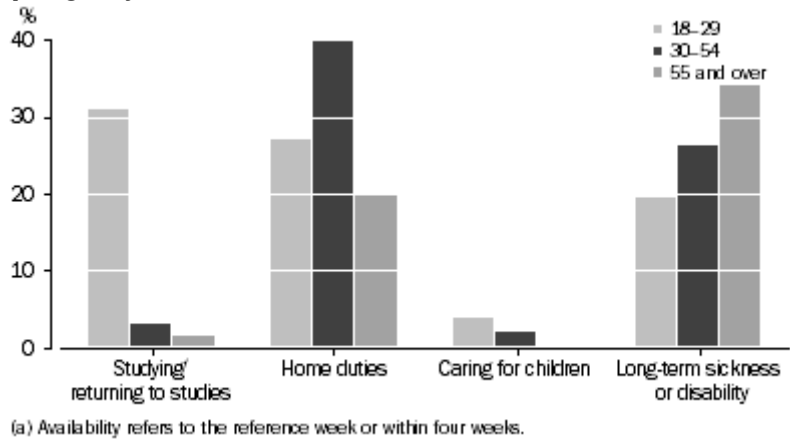


### Not available to start a job or work with more hours

There were 358,100 people who wanted a job or more hours but who were not available to do so. Most of these (92%) were not in the labour force, while the remaining 8% comprised people who worked less than 16 hours. About two-thirds (238,900 or 67%) of those who wanted work or more hours but were not available were women.

The reasons given by people for their unavailability varied by age, reflecting the fact that the reasons tend to change across the stages of the life cycle. The most common main reasons given by young people (those aged 18-29 years) for their unavailability was 'studying/returning to studies' (31%). For those aged 30-54 years who wanted to work (more) but were unavailable, 40% cited 'home duties' as their main reason while a further 26% reported 'long-term sickness or injury' as their main reason. There has been a shift in reporting 'home duties' instead of 'caring for children' as a reason for not being available to work (more hours). For older people (aged 55 years and over) 'long-term sickness/injury' was their most commonly reported main reason (49%).

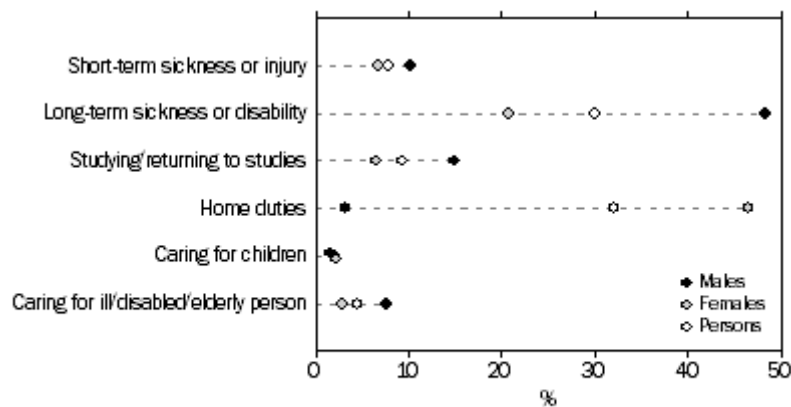
**PERSONS WHO WANTED A JOB OR WORK WITH MORE HOURS, BUT WERE NOT AVAILABLE(a),** Age by selected main reason not available to start work/more hours



Men and women had different reasons for not being available to start work or more hours within four weeks. About 46% of the 238,900 women who wanted to work (more) but were unavailable reported that 'home duties' was their main reason for their unavailability. Almost one-third (99,400) of women not available to start work reported that their youngest child was aged four years or less. Another commonly reported main reasons given by women for not being available was 'long-term sickness or disability' (21% or 49,800). Over one-third of women who were not available to start work or more hours within four weeks reported that they would be available to start work or more hours within 6 months.

Of the 119,200 men who wanted a job or more hours but were not available, almost half reported that their main reason for unavailability was 'long-term sickness or disability' (48% or 57,700). Of the men not available to start work, 31% reported that they would be available to start work or more hours within 6 months. Other commonly reported main reasons given by men for not being available to start work or more hours within four weeks were 'studying/returning to studies' (17,800) and 'short-term sickness or injury' (12,300).

**PERSONS WHO WANTED A JOB OR WORK WITH MORE HOURS, BUT WERE NOT AVAILABLE(a),** Selected main reason not available to start work/more hours



(a) Availability refers to the reference week or within four weeks.

## Preferred weekly hours

Information about their preferred number of hours of work was collected from people not in the labour force who wanted a job and from people who usually worked less than 16 hours and wanted to work more.

Of the 1.1 million people not in the labour force who wanted a job, 72% reported that they would prefer to work part-time hours (60% of men and 79% of women). The average preferred number of hours was 22 (26 hours for men and 20 hours for women).

Similarly, for those who worked few hours, there were distinct differences in the hours preferences of men and women. Males preferred an average of 30 hours per week, whereas females preferred an average of 26 hours.

## PEOPLE WHO DID NOT WANT (MORE) WORK

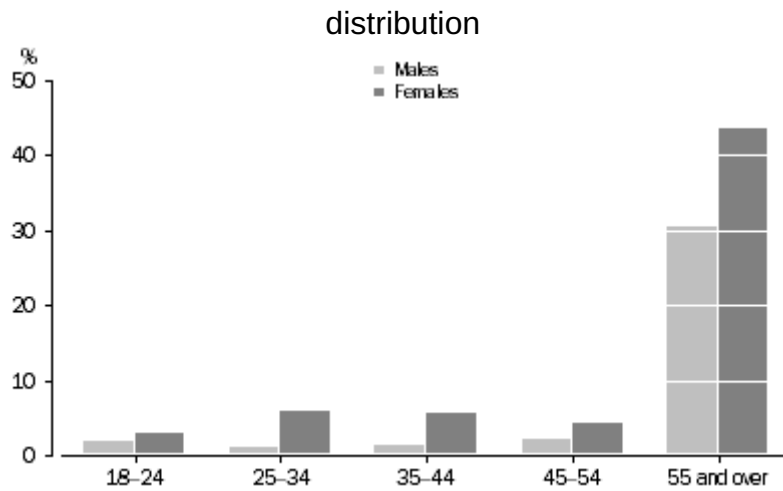
Seventy-three percent (or 4.6 million) of those who were not employed or who worked less than 16 hours indicated that they did not want (more) work. This comprised:

- 3.9 million people (2,478,400 women and 1,468,700 men) who were not in the labour force; and
- 663,600 people (486,000 women and 177,600 men) who usually worked less than 16 hours.

The age structure of those who were not in the labour force and didn't want to work was quite different from those who worked less than 16 hours and didn't want more work. These different age structures reveal why the most common main reasons for not wanting (more) work are different between the two groups.

People who were not in the labour force and didn't want to work were older - just under three-quarters of them (74%) were aged 55 years and over. Women aged 55 years and over formed the largest single group, representing 44% of those who were not in the labour force and did not want to work, while men of that age represented 31%. Men in the younger age groups represented only a very small proportion of those not in the labour force who didn't want to work - men aged 18-54 years formed just 7% of this group. In contrast, women aged 18-54 years formed 18%.

## PERSONS NOT IN THE LABOUR FORCE WHO DID NOT WANT TO WORK, Age and sex



Of the 3.9 million people not in the labour force who did not want to work, the most commonly reported main reason for not wanting a job was 'permanently retired/will not work full time again' (31% or 1.2 million), followed by 'no need/satisfied with current arrangements/retired from full-time work (for now)' (22% or 851,200), and 'long-term sickness or disability' (22% or 836,600).

'Long-term sickness or disability' was reported by 29% of men (or 427,900), with the highest proportion of these (76%) aged 55 years and over. Thirteen percent of women (or 331,500) indicated the main reason that they did not want to work was due to 'caring for children'. Most of these women (64%) were aged 30-54 years.

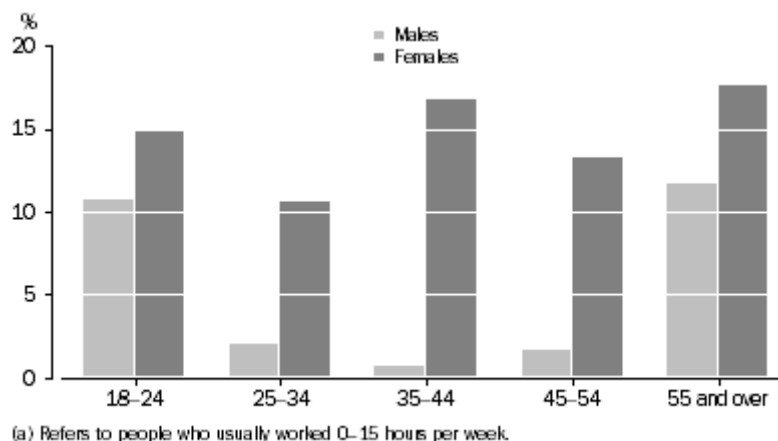
#### PERSONS NOT IN THE LABOUR FORCE WHO DID NOT WANT TO WORK, Selected main reason for not wanting work



Men and women who usually worked less than 16 hours and didn't want more hours were relatively young - 56% of them were aged between 18 and 44 years. Women made up more than three-quarters of those (73%) who worked less than 16 hours and who didn't want more work. Women aged 55 years and over formed the largest group (18%) of those working less than 16 hours and not wanting more work, closely followed by women aged 35-44 years (17%). Men aged 55 years and over formed the largest group (11%) of men who worked less than 16 hours and did not want more work.

#### PERSONS WHO USUALLY WORKED LESS THAN 16 HOURS(a) AND DID NOT WANT TO WORK MORE, Age and sex distribution

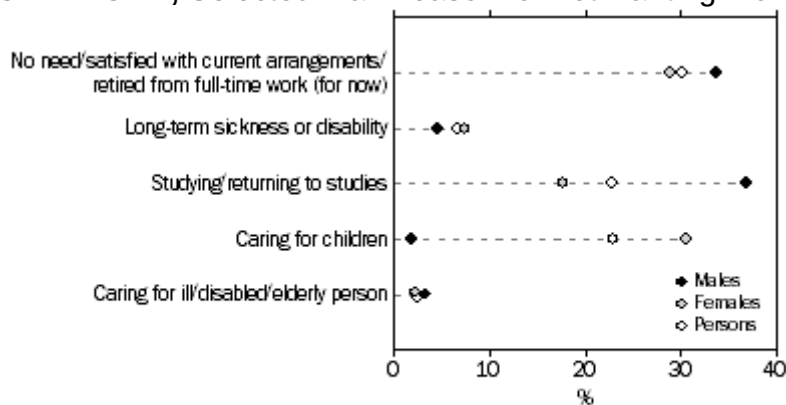




The most commonly reported main reason that women gave for not wanting more hours was 'caring for children' (31% or 148,700 women gave this response). Half of women aged 30-54 years not wanting more hours (or 122,000) reported this as the main reason. This indicates that part-time work is particularly important for women who are raising children. More than one-quarter of women working less than 16 hours and who did not want to work more indicated that their main reason was 'no need/satisfied with current arrangements/retired from full-time work (for now)'. Half (49%) of these women were aged 55 years and over.

There were 177,600 men who usually worked less than 16 hours and didn't want more hours. The most commonly reported main reason given by 37% of those men for not wanting more hours was 'studying/returning to studies' (almost all of this group aged 18-29 years), followed by 'no need/satisfied with current arrangements/retired from full-time work (for now)' (34% or 59,800) (with 78% of this group aged 55 years and over).

#### PERSONS WHO USUALLY WORKED LESS THAN 16 HOURS(a) AND DID NOT WANT TO WORK MORE, Selected main reason for not wanting more hours



#### INCENTIVES TO JOIN/INCREASE PARTICIPATION IN THE LABOUR FORCE

People aged 18-69 years who were:

- not in the labour force, excluding those permanently unable to work; or
- usually worked less than 16 hours and did not prefer to work more hours, were not available to work more hours or were not looking for work with more hours;

were asked about a range of incentives that would encourage them to join or increase their participation in the labour force. Results are presented for those who worked in the last 20 years (3 million persons), with the incentives grouped into the following categories: work related, finance related, child-care related, other caring related and other.

The most important work related incentive to join or increase participation in the labour force for both men and women was 'ability to work part time hours', with 51% of women and 28% of men reporting this as 'very important'. The next most important work related incentive for women to join or increase participation in the labour force was 'work set hours on set days' (41%). For those women with 'caring for children' responsibilities, the most important childcare related incentive was 'financial assistance with childcare' with 55% of these women reporting this as 'very important'. Overall, 'financial assistance with childcare' was the most important incentive reported by women, followed closely by 'access to child care places' (53%).

The most important financial incentive to join or increase participation in the labour force was the ability to 'keep more of pay', with 37% of people reporting that this was 'very important' (30% of men and 41% of women). For those that reported 'caring for ill/ disabled/ elderly person' as the main reason not wanting work or more hours, men reported 'access to in-home respite care' as the most important caring related incentive, with 34% reporting this as 'very important'. Women in this group reported the most important caring related reason was 'access to residential or aged care', with 43% reporting this as 'very important'. The most important other incentive to join or increase labour force participation was 'less paperwork from government', with 28% of people (24% of men and 30% of women) reporting this as 'very important'.

Of the 2.4 million people who nominated an incentive that was 'very important' or 'somewhat important' to them, nearly a quarter (564,000) said they would definitely return to work if they were offered a job with those conditions.

## About this Release

Provides information about people who are 18 years and over who are unemployed, not in the labour force or worked less than 16 hours. Data from this survey are used to obtain a better understanding of the factors that influence people to join or leave the labour force. By knowing the barriers people have to wanting, finding or taking up (more) employment a range of incentives to labour force participation can be indirectly identified. Estimates can be cross-classified by demographics such as state, sex, age, marital status and country of birth, as well as labour force characteristics.

# Explanatory Notes

## Explanatory Notes

### EXPLANATORY NOTES

## INTRODUCTION

**1** The statistics presented in this publication were compiled from data collected in the Multipurpose Household Survey (MPHS) that was conducted throughout Australia in the 2008-09 financial year as a supplement to the Australian Bureau of Statistics (ABS) monthly Labour Force Survey (LFS). The MPHS was designed to provide statistics annually for a small number of labour, social and economic topics. The topics collected in 2008-09 were:

- **Barriers and Incentives to Labour Force Participation, Australia** (cat. no. 6239.0)
- **Retirement and Retirement Intentions, Australia** (cat. no. 6238.0)
- **Household Use of Information Technology, Australia** (cat. no. 8146.0)
- **Crime Victimisation, Australia** (cat. no. 4530.0)

**2** For all topics, information on labour force characteristics, education, income and other demographics are also available. In addition to these publications, data from the 2008-09 MPHS will also be released as an expanded Confidentialised Unit Record File (CURF) in 2010.

**3** The publication **Labour Force, Australia** (cat. no. 6202.0) contains information about survey design, sample redesign, scope, coverage and population benchmarks relevant to the monthly LFS, which also apply to the MPHS. It also contains definitions of demographic and labour force characteristics, and information about telephone interviewing which are relevant to both the monthly LFS and the MPHS.

## CONCEPTS SOURCES AND METHODS

**4** The conceptual framework used in Australia's LFS aligns closely with the standards and guidelines set out in Resolutions of the International Conference of Labour Statisticians. Descriptions of the underlying concepts and structure of Australia's labour force statistics, and the sources and methods used in compiling these estimates, are presented in **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0.55.001).

## COLLECTION METHODOLOGY

**5** ABS interviewers conducted personal interviews by either telephone or at selected dwellings during the 2008-09 financial year. Each month a sample of dwellings were selected for the MPHS from the responding households in the LFS. In these dwellings, after the LFS had been fully completed for each person, a usual resident aged 15 years and over was selected at random and asked the additional MPHS questions in a personal interview. Information was collected using Computer Assisted Interviewing (CAI), whereby responses are recorded directly onto an electronic questionnaire in a notebook computer.

## SCOPE

**6** The scope of the LFS is restricted to people aged 15 years and over and excludes the following people:

- members of the permanent defence forces
- certain diplomatic personnel of overseas governments, customarily excluded from census and population estimates
- overseas residents in Australia

- members of non-Australian defence forces (and their dependants).

**7** In addition the 2008-09 MPHS excluded the following:

- people living in very remote parts of Australia
- people living in non-private dwellings such as hotels, university residences, students at boarding schools, patients in hospitals, residents of homes (e.g. retirement homes, homes for people with disabilities), and inmates of prisons.

**8** For the Barriers and Incentives to Labour Force Participation topic, the scope was further restricted to people aged 18 years and over.

**9** The 2008-09 MPHS was conducted in both urban and rural areas in all states and territories, but excluded people living in very remote parts of Australia overall. The exclusion of these people is expected to have only minor impact on any aggregate estimates that are produced for individual states and territories, except for the Northern Territory where such people account for around 23% of the population.

## **COVERAGE**

**10** In the LFS, coverage rules are applied which aim to ensure that each person is associated with only one dwelling and hence has only one chance of selection in the survey. See Labour Force, Australia (cat. no. 6202.0) for more details.

## **SAMPLE SIZE**

**11** The initial sample for the MPHS 2008-09 consisted of approximately 18,000 private dwelling households. Of the 15,233 private dwelling households that remained in the survey after sample loss (e.g. households with LFS non-response, no residents in scope for the LFS, vacant or derelict dwellings and dwellings under construction), approximately 86% were fully responding to the MPHS. The number of completed interviews obtained from these private dwelling households (after taking into account scope, coverage and subsampling exclusions) was 5,243 for the Barriers and Incentives to Labour Force Participation survey.

## **ESTIMATION METHODS**

**12** Weighting is the process of adjusting results from a sample survey to infer results for the total in scope population. To do this, a 'weight' is allocated to each sample unit, which, for the MPHS, can either be a person or a household. The weight is a value which indicates how many population units are represented by the sample unit. The first step in calculating weights for each unit is to assign an initial weight, which is the inverse of the probability of being selected in the survey. The initial weights are then calibrated to align with independent estimates of the population of interest, referred to as 'benchmarks'. Weights are calibrated against population benchmarks to ensure that the survey estimates conform to the independently estimated distribution of the population rather than the distribution within the sample itself.

**13** The survey was benchmarked to the estimated civilian population aged 15 years and over living in private dwellings in each state and territory, excluding the scope exclusions

listed under Explanatory Notes 6 to 8. The process of weighting ensures that the survey estimates conform to person benchmarks by state, part of state, age and sex, and to household benchmarks by state, part of state and household composition. These benchmarks are produced independently of the survey.

## **RELIABILITY OF THE ESTIMATES**

**14** Estimates in this publication are subject to sampling and non-sampling errors:

- Sampling error is the difference between the published estimate and the value that would have been produced if all dwellings had been included in the survey. For more information see the Technical Note.
- Non-sampling errors are inaccuracies that occur because of imperfections in reporting by respondents and interviewers and errors made in coding and processing data. These inaccuracies may occur in any enumeration, whether it be a full count or a sample. Every effort is made to reduce the non-sampling error to a minimum by careful design of questionnaires, intensive training and supervision of interviewers and effective processing procedures.

## **CLASSIFICATIONS USED**

**15** Country of birth data are classified according to the **Standard Australian Classification of Countries (SACC), 1998** (cat. no. 1269.0).

**16** Occupation data are classified according to the **ANZSCO - Australian and New Zealand Standard Classification of Occupations, First Edition, 2006** (cat.no. 1220.0).

**17** Industry data are classified according to the **Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006** (cat. no. 1292.0).

**18** Educational attainment data are classified according to the **Australian Standard Classification of Education (ASCED)** (cat. no. 1272.0).

## **COMPARABILITY WITH MONTHLY LFS STATISTICS**

**19** Due to differences in the scope and sample size of the MPHS and that of the LFS, the estimation procedure may lead to some variations between labour force estimates from this survey and those from the LFS.

## **PREVIOUS SURVEYS**

**20** The Barriers and Incentives to Labour Force Participation survey was last conducted in the 2006-07 financial year. Results of this survey were published in:

- **Barriers and Incentives to Labour Force Participation, Australia, July 2006 to June 2007** (cat. no. 6239.0)

## **CHANGES IN THIS ISSUE**

**21** Care should be taken in interpreting the data in the 'All reasons not available to start work/more hours' and 'Main reason not available to start work/more hours' items. Some people with young children indicated that 'Home duties' was their reason for not being available for work, rather than 'Caring for children'.

**22** The following are new data items available to the Barriers and Incentives to Labour Force Participation survey for the 2008-09 year. For a more detailed list of categories available for these data items, see data cube Appendix 1 - B&I and R&RI 2008-09 Data Items List.

### **Incentives to join/increase participation in the labour force**

- Work related incentives e.g. ability to work part-time hours, vary start and finish times
- Financial incentives e.g. ability to keep more of pay, maintain most of any welfare benefits or allowances
- Childcare related incentives eg. ability to access to childcare places, financial assistance with childcare costs
- Caring related incentives e.g. ability to access to residential or aged care
- Other incentives e.g. less paperwork from government support agencies
- Lowest gross wage per hour that respondent would work for
- Whether respondent would return to work if important conditions were available

**23** The purpose of these items was to find out what would encourage people to return to work or increase their participation. A range of incentives were identified e.g. work related, caring related etc. with respondents asked whether these incentives were 'Very important', 'Somewhat important' or 'Not important at all' to them.

**24** The following items are also new for 2008-09:

- Self assessed health status
- All reasons not available to start work/more hours

### **NEXT SURVEY**

**25** The ABS plans to conduct this survey again (for core topics only) during the 2010-11 financial year.

### **ACKNOWLEDGEMENT**

**26** ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the **Census and Statistics Act 1905**.

### **PRODUCTS AND SERVICES**

#### **Spreadsheets**

**27** An electronic version of the tables released in this publication is available on the ABS web site in spreadsheets (cat. no. 6239.0). The spreadsheets present the tables and the related relative standard errors (RSEs) for each publication table.

## Unit record file

**28** An expanded Confidentialised Unit Record File (CURF) will be released in early 2010 from the 2008-09 MPHS subject to the approval of the Australian Statistician. This CURF will be accessible only through the RADL. The CURF will be available in SAS, STATA and SPSS format. A full range of up-to-date information about the availability of ABS CURFs and about applying for access to CURFs is available via the ABS website (see Services - CURF Microdata). For inquiries regarding CURFs, contact ABS CURF Management Unit via email at [microdata.access@abs.gov.au](mailto:microdata.access@abs.gov.au) or telephone (02) 6252 7714.

## RELATED PUBLICATIONS

**29** ABS publications which may also be of interest include:

- **Australian Labour Market Statistics** (cat. no. 6105.0)
- **Job Search Experience, Australia** (cat. no. 6222.0)
- **Underemployed Workers, Australia** (cat. no. 6265.0)
- **Persons Not in the Labour Force, Australia** (cat. no. 6220.0)
- **Labour Force, Australia** (cat. no. 6202.0)
- **Employment Arrangements, Retirement and Superannuation, Australia** (cat. no. 6361.0)
- **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0.55.001)
- **Household Use of Information Technology, Australia** (cat. no. 8146.0)

**30** Current publications and other products released by the ABS are available from the **Statistics Page** on the ABS website. The ABS also issues a daily **Release Advice** on the website which details products to be released in the week ahead.

# Glossary

## GLOSSARY

### Actively looking for work

People who were taking active steps to find work. Active steps comprise:

- registering with a Job Network employment agency
- contacting an employment agency
- contacting prospective employers
- answering a newspaper advertisement for a job
- checking Centrelink touchscreens
- checking factory notice boards
- advertising or tendering for work

### **Available to start work**

For people not in the labour force, those who were available to start work in the reference week or within four weeks.

### **Available to start work with more hours**

Employed people who usually worked 0-15 hours per week in all jobs and were available to start work with more hours in the reference week or within four weeks.

### **Current job**

The job in which a person currently works.

### **Did not prefer to work more hours**

People who said 'no' or 'don't know' when asked 'would you prefer to work more hours than you usually work?'.

### **Did not want a paid job**

People who were not classified as employed or unemployed who answered 'no' or don't know when asked if they would like a paid job.

### **Duration of current main job/last job**

Length of time worked in current main job/last job.

### **Educational attainment**

Level of highest educational attainment identifies the highest achievement a person has attained in any area of study. It is defined as the highest educational attainment a person has achieved, and is not a measurement of relative importance of different fields of study.

### **Employed**

People who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (comprising employees, employers and own account workers); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
  - away from work for less than four weeks up to the end of the reference week; or
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or
  - away from work as a standard work or shift arrangement; or
  - on strike or locked out; or
  - on workers' compensation and expected to return to their job; or
- were employers or own account workers who had a job, business or farm, but were not at work.



## **Employees**

People who work for a public or private employer and receive remuneration in wages, salary, a retainer fee from their employer while working on a commission basis, tips, piece rates, or payment in kind, or people who operate their own incorporated enterprise with or without hiring employees.

### **Employees (excluding OMIEs) with paid leave entitlements**

Employees (excluding Owner Managers of Incorporated Enterprises) (OMIEs), who were entitled to either paid sick leave or paid holiday leave (or both).

### **Employees (excluding OMIEs) without paid leave entitlements**

Employees (excluding OMIEs), who were not entitled to, or did not know whether they were entitled to, paid sick and paid holiday leave.

## **Employers**

People who operate their own unincorporated economic enterprise or engage independently in a profession or trade and hire one or more employees.

## **Employment types**

Classification of employed people according to the following employment type categories on the basis of their main job (i.e. the job in which they usually work the most hours):

Employees (excluding owner managers of incorporated enterprise)

- with paid leave entitlements
- without paid leave entitlements

Owner managers

- owner managers of incorporated enterprises
- owner managers of unincorporated enterprises

Contributing family workers

## **Family**

Two or more people, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering; and who are usually resident in the same household. The basis of a family is formed by identifying the presence of a couple relationship, lone parent-child relationship or other blood relationship. Some households will, therefore, contain more than one family.

## **Full-time educational attendance**

People aged 15-19 who, during the reference week were enrolled full time at secondary or high schools, and those aged 15-24 who, during the reference week, were enrolled full time

at a Technical and Further Education (TAFE) college, university, or other tertiary educational institution.

### **Full-time workers (usual)**

Employed people who usually work 35 hours or more a week (in all jobs).

### **Future starters**

People who were not employed during the reference week, were waiting to start a job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then.

### **Government pension/allowance**

Income support payments from government to persons under social security and related government programs. Included are pensions and allowances received by aged, disabled, unemployed and sick persons, families and children, veterans and their survivors, and study allowances for students. Payments made by overseas governments as well as the Australian government are included.

### **Gross income**

Regular and recurring cash receipts including monies received from wages and salaries, government pensions and allowances, and other regular receipts such as superannuation, workers' compensation, child support, scholarships, profit or loss from own unincorporated business or partnership, and property income. Gross income is the sum of current income from all these sources before income tax or the Medicare levy have been deducted.

### **Group jack-knife method**

This method of calculating standard errors starts by dividing the survey sample into a number of approximately equal-sized groups (replicate groups). Replicate estimates of the population total are then calculated from the sample by excluding each replicate group in turn. The jack-knife variance is derived from the variation of the respective replicate estimates around the estimate based on the whole sample.

### **Had ever worked for two weeks or more**

People who are not in the labour force or are unemployed and have previously worked for two weeks or more.

### **Had previously worked**

People who are not in the labour force or are unemployed, who have previously worked for two weeks or more, less than 20 years ago.

### **Incorporated enterprise**

An enterprise which is registered as a separate legal entity to its members or owners. Also known as a limited liability company.

### **Industry**

An industry relates to a group of businesses or organisations that perform similar sets of

activities in terms of the production of goods and services. In this publication, industry is classified according to the **Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006** (cat.no.1292.0).

### **Labour force**

The civilian population can be split into two mutually exclusive groups: the labour force (employed and unemployed people) and people not in the labour force.

### **Last job**

Refers to last job less than 20 years ago.

### **Looking for work with more hours**

Refers to persons who indicated that they had done something in the last four weeks to obtain more hours of work.

### **Main English-speaking countries**

The list of Main English Speaking Countries provided here is not an attempt to classify countries on the basis of whether or not English is the predominant or official language of each country. It is a list of the main countries from which Australia receives, or has received, significant numbers of overseas settlers who are likely to speak English. These countries comprise the United Kingdom, the Republic of Ireland, New Zealand, Canada, South Africa, and the United States of America.

### **Main job**

The job in which most hours were usually worked.

### **Non-school qualification**

Non-school qualifications are awarded for educational attainments other than those of pre-primary, primary or secondary education. They include qualifications at the Post Graduate Degree level, Master Degree level, Graduate Diploma and Graduate Certificate level, Bachelor Degree level, Advanced Diploma and Diploma level, and Certificates I, II, III and IV levels. Non-school qualifications may be attained concurrently with school qualifications.

### **Not employed**

People who are either unemployed or not in the labour force.

### **Occupation**

An occupation relates to a collection of jobs that are sufficiently similar in their title and tasks, skill level and skill specialisation which are grouped together for the purposes of classification. In this publication, occupation is classified according to **ANZSCO - Australian and New Zealand Standard Classification of Occupations, First Edition, 2006** (cat.no.1220.0).

### **Owner managers**

People who work in their own business, with or without employees, whether or not the business is of limited liability.

**Owner managers of incorporated enterprises**

People who work in their own incorporated enterprise, that is, a business entity which is registered as a separate legal entity to its members or owners (also known as a limited liability company).

**Owner managers of unincorporated enterprises**

People who operate their own unincorporated enterprise, that is, a business entity in which the owner and the business are legally inseparable, so that the owner is liable for any business debts that are incurred. Includes those engaged independently in a trade or profession.

**Part-time workers (usual)**

Employed people who usually worked less than 35 hours a week (in all jobs).

**Persons in the labour force**

People who were classified as being in the labour force, that is, either employed or unemployed.

**Persons not in the labour force**

People who were not classified as employed or unemployed.

**Preferred to work more hours**

Employed people who usually work 0-15 hours each week and would prefer to work more hours than they usually work.

**Reference week**

The week preceding the week in which the interview was conducted.

**Relationship in household**

The relationship of people who live in the same household.

**Self-assessed health status**

A person's general assessment of their own health against a five point scale from excellent through to poor.

**Set hours on set days**

A working arrangement where a person has predictable days of work and start and finish times each week.

**Status in employment**

Employed people classified according to whether they were employees, employers, own account workers, or contributing family workers.

**Time since last job**

The elapsed time since ceasing last job.

**Took inactive steps**

People who did not take active steps to look for work (see actively looking for work). Includes only looked in newspapers.

**Unemployed**

People who were not employed during the reference week, and:

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

**Unincorporated enterprise**

A business entity in which the owner and the business are legally inseparable, so that the owner is liable for any business debts that are incurred.

**Unpaid activities**

Includes caring for own children or other people's children including grandchildren. Also includes caring for elderly or someone with long-term illness or disability or unpaid voluntary workers. Respondents were asked whether they had undertaken any of these activities in the last four weeks.

**Usual hours worked**

The hours usually worked per week by an employed person.

**Vary start and finish times**

A working arrangement where people are able to either negotiate different start and finish times on a weekly basis or start and finish within a defined range of time each day.

**Wanted a paid job**

People who are not in the labour force and would like a paid job of any kind. Includes people who said 'depends'.

**Wanted more hours**

See 'Preferred to work more hours'.

**Work extra to have time off**

A working arrangement where an employee is able to work extra hours in order to have time off at a later stage. These arrangements are sometimes called 'flexdays' or 'time off in lieu'.

**Work from home**

Working arrangements where person works for an employer while located in their own home. This work often involves sending and receiving work related documents via an internet connection.

### **Work part-time hours**

Working arrangements where a person works less than 35 hours each week.

## **Abbreviations**

### **ABBREVIATIONS**

'000	thousand
ABS	Australian Bureau of Statistics
ANZSCO	Australian and New Zealand Standard Classification of Occupations
ANZSIC	Australian and New Zealand Standard Industrial Classification
ASCED	Australian Standard Classification of Education
ASCO	Australian Standard Classification of Occupations
CURF	confidentialised unit record file
LFS	Labour Force Survey
MPHS	Multipurpose Household Survey
MPS	Monthly Population Survey
OMIE	owner manager of incorporated enterprise
RSE	relative standard error
SACC	Standard Australian Classification of Countries
SE	standard error

## **POPULATIONS AND DATA ITEMS LIST (Appendix)**

### **APPENDIX POPULATIONS AND DATA ITEMS LIST**

#### **DATA AVAILABLE ON REQUEST**

The ABS has a range of data available on request from the Barriers and Incentives to Labour Force Participation topic. This section lists the data items and populations to which they relate. Full details of these data items are available on the ABS website in an Excel spreadsheet, as a data cube (Appendix 1 - B&I and R&RI 2008-09 Data Items List).

The population(s) for a particular data item refers to the people in the survey to whom the data relates. Where alternative output categories are available for the same data item, these are shown and the data item name is followed by a bracketed numeral (e.g. country of birth (2)).

To obtain data available on request, or for more information about our customised data service contact Labour Market Statistics in Canberra on (02) 6252 7206 or by facsimile on

(02) 6252 5066, or by email to <labour.statistics@abs.gov.au>.

### **Population 1**

All persons aged 18 years and over

### **Population 2**

Employed persons

### **Population 3**

Unemployed persons

### **Population 4**

Persons not in the labour force

### **Population 5**

Persons who wanted a paid job

### **Population 6**

Persons who wanted a paid job but were not available to start within four weeks

### **Population 7**

Persons who wanted a paid job, were available to start within four weeks, but were not actively looking for a job

### **Population 8**

Persons who wanted a paid job, were available to start within four weeks, and were actively looking for a job

### **Population 9**

Persons who did not want a paid job or did not know

### **Population 9A**

Persons aged 18-69 who were not in the labour force, excluding those permanently unable to work (incentives population)

## Population 10

Persons who usually worked 0-15 hours per week

## Population 11

Persons who preferred to work more hours

## Population 12

Persons who preferred to work more hours, but were not available to start within four weeks

## Population 13

Persons who preferred to work more hours, were available to start within four weeks, but were not looking for work with more hours

## Population 14

Persons who preferred to work more hours, were available to start within four weeks, and were looking for work with more hours

## Population 15

Persons who did not prefer to work more hours

## Population 15A

Persons aged 18 -69 years who usually worked 0–15 hours who did not prefer to work more hours, were not available to work more hours or were not looking for work with more hours (incentives population)

Data items		Populations
Demographic characteristics		
1	State or territory of usual residence	All
2	Area of usual residence	All
3	Region of usual residence	All
4	Sex	All
5	Marital status	All
6	Relationship in household	All
7	Whether household had children aged under 15	All
8A	Country of birth and period of arrival	All
8B	Country of birth (1)	All
8C	Country of birth (2)	All
9	Age group (years)	All
10	Age of youngest child in household (years)	All
11	Number of children aged less than 15 years	All



11A	Self assessed health status	3-15
	Partner's demographics	
78A	Partner' age	All
79	Partner's labour force status	All
80	Partner's full-time or part-time status in employment	All
80A	Partner's full-time or part-time status by usual hours	All
	Education	
12	Whether currently studying	3-15
13	Whether completed primary school	3-15
14	Level of highest non-school qualification	3-15
15	Level of highest educational attainment	3-15
16	Level of highest school educational attainment	3-15
17	Main field of highest non-school qualification	3-15
18	Main field of highest educational attainment	3-15
19	Age and whether attending an educational institution	All
	Unpaid activities	
20	Unpaid activities in last four weeks	3-15
	Labour force characteristics	
21	Hours usually worked in all jobs	2, 10-15
22	Duration of current period of unemployment	3
23	Status in employment	2, 10-15
24	Full-time or part-time status in employment	2, 10-15
25	Full-time or part-time status by usual hours	2, 10-15
26	Labour force status	All
	Current main job details	
27	Hours usually worked in current main job	10-15
28	Full-time or part-time status in current main job	10-15
29	Employment type in current main job	10-15
30	Occupation of current main job	10-15
31	Industry of current main job	10-15
32	Duration of current main job	10-15
	Previous job details	
33	Whether had ever worked	3-9
34	Previous job full-time or part-time	3-9
35	Time since last job	3-9
36	Employment type of last job	3-9
37	Occupation of last job	3-9
38	Industry of last job	3-9
39	Hours usually worked per week in last job	3-9
40	Duration of last job	3-9
41	Reason for ceasing last job	3-9
	Previous full-time job details	
42	Whether had ever held a full-time job	3-15
43	Whether last full-time job was with same employer as current job	10-15
44	Whether last full-time job was with same employer as last job	3-9
45	Time since last full-time job	3-9
46	Employment type of last full-time job	3-15
47	Occupation of last full-time job	3-15
48	Industry of last full-time job	3-15
49	Hours usually worked per week in last full-time job	3-15
50	Duration of last full-time job	3-15
51	Reason for ceasing last full-time job	3-15
	Want to work (more)	
52	Whether preferred to work more hours than usually worked	10-15

53	Preferred number of hours	5-9, 11-14
54	Whether wanted a paid job	3-9
55	Preferred length/tenure of job	5-8
56	Whether would accept a short-term/temporary job	5-8
57	All reasons for not wanting work/more hours	9, 15
58	Main reason for not wanting work/more hours	9, 15
Available to work (more)		
59	Whether available to start work/more hours in the reference week	5, 7-8, 11, 13-14
60	Time until available to start work/more hours	5-8, 11-14
60A	All reasons not available to start work/more hours	6, 12
61	Main reason not available to start work/more hours	6, 12
62	Main child care reason not available to start work/more hours	6, 12
Looking for (more) work		
63	Whether looked for work	3-9
64	Whether looked for more hours	11-14
65	Looked for full-time or part-time work	3
66	All reasons not looking for work/more hours	7, 13
67	Main reason not looking for work/more hours	7, 13
68	Main child care reason not looking for work/more hours	7, 13
69	All difficulties finding work/more hours	3, 8, 14
70	Main difficulty finding work/more hours	3, 8, 14
Incentives to join/increase participation in the labour force		
Work related incentives		
70A	Work a set number of hours on set days	9A, 15A
70B	Vary start and finish times	9A, 15A
70C	Ability to work extra to have time off	9A, 15A
70D	Ability to work part-time hours	9A, 15A
70E	Ability to do some or all of your work from home	9A, 15A
70F	Ability to have breaks at work	9A, 15A
70G	Ability to sit down for some of the time	9A, 15A
70H	Ability to work more hours with the same employer	9A, 15A
Finance related incentives		
70I	Keep more of pay	9A, 15A
70J	Maintain most of any welfare benefits or allowances	9A, 15A
Child care related incentives (only applies to those with child care responsibilities)		
70K	Access to child care places	9A, 15A
70L	Financial assistance with child care costs	9A, 15A
70M	Child care that is open at night and on weekends	9A, 15A
Caring related incentives (only applies to those with caring responsibilities)		
70N	Access to residential or aged care	9A, 15A
70O	Access to in-home respite care or a Community support worker	9A, 15A
Other incentives		
70P	Less paperwork from government support agencies	9A, 15A
70Q	Getting more help from family or friends	9A, 15A
70R	Other incentives	9A, 15A
70S	Lowest gross wage per hour that respondent would work for	9A, 15A

70T	Whether respondent would return to work if important conditions were met	9A, 15A
	Current income details	
71	Current weekly gross personal income from all sources	All
72	All sources of current personal income	All
73	Main source of current personal income	All
74	All types of government pension/allowance currently received	All
	Partner's current income details	
75	Partner's current weekly gross income from all sources	3-15
76	All sources of partner's current personal income	3-15
77	Main source of partner's current personal income	3-15
78	All types of partner's Government pensions/allowances received	3-15
	Household income	
81	Total gross weekly household income from all sources	All

---

## Quality Declaration - Summary

### QUALITY DECLARATION - SUMMARY

#### INSTITUTIONAL ENVIRONMENT

For information on the institutional environment of the Australian Bureau of Statistics (ABS), including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

#### RELEVANCE

The Barriers and Incentives to Labour Force Participation survey provides data on people aged 18 years and over who are either not employed or work less than 16 hours. The Barriers and Incentives to Labour Force Participation topic is designed to bring various aspects of factors which influence labour force participation into one data source for comparison. The survey provides information on the potential labour force and what is preventing these people finding or taking up (more) work. The related supplementary surveys of *Persons not in the labour force, Australia* (cat. no. 6220.0), *Underemployed Workers, Australia* (cat. no. 6265.0) and *Job Search Experience, Australia* (cat. no. 6222.0) offer more detailed information on the various populations.

For a complete list of populations and data items collected in this survey see Appendix 1 – B&I and R&RI 2008–09 Data Items List.

#### TIMELINESS

The Barriers and Incentives to Labour Force Participation survey is collected biennially, and was first conducted in 2004–05. The most recent Barriers and Incentives to Labour Force Participation survey was conducted throughout Australia during the 2008-09 financial year. It

was a component of the 2008-09 Multipurpose Household Survey (MPHS), collected as a supplement to the Australian Bureau of Statistics (ABS) Labour Force Survey (LFS). Results from the survey is released approximately six months after the completion of enumeration i.e. during December, in the publication *Barriers and Incentives to Labour Force Participation* (cat. no. 6239.0).

## ACCURACY

The number of completed interviews (after taking into account scope and coverage exclusions) for the Barriers and Incentives to Labour Force Participation survey was 5,243. The response rate was approximately 86% after taking the exclusions into account. See the Explanatory Notes (paragraph 11) for more information. The exclusion of people living in very remote parts of Australia has only a minor impact on aggregate estimates, except for the Northern Territory where these people account for around 23% of the population.

Estimates from the survey are subject to sampling and non-sampling errors.

The MPHS was designed primarily to provide estimates at the Australia level. Broad estimates are available for states and territories, though users should exercise caution when using estimates at this level because of the presence of high sampling errors. RSEs for all estimates in the publication are available on the ABS website. As a guide, estimates and RSEs for Table 1 and Table 2 are presented in the Technical note.

Sample reductions in the Labour Force Survey, (see Information Paper: *Labour Force Survey Sample Design, Nov 2007 (Second edition)* (cat. no. 6269.0), resulted in the MPHS being marginally smaller than the sample size in 2006-07.

## COHERENCE

The following changes were made to the Barriers and Incentives to Labour Force Participation survey for the 2008–09 cycle in order to enhance the quality of the data:

- New content was included in the 2008-09 survey to explore incentives to join or increase participation in the labour force. New data items included are: incentives to join/increase participation in the labour force, self assessed health status, all reasons not available to start work/more hours.
- Care should be taken in interpreting the data in the 'All reasons not available to start work/more hours' and 'Main reason not available to start work/more hours' items. There has been a shift from reporting 'caring for children' to 'home duties'. Some people with young children indicated that 'home duties' was their reason for not being available for work, rather than 'caring for children'.

The related supplementary surveys of *Persons not in the labour force, Australia* (cat. no. 6220.0), *Underemployed Workers, Australia* (cat. no. 6265.0) and *Job Search Experience, Australia* (cat. no. 6222.0) offer more detailed information on the various populations. Data from these supplementary surveys are not directly comparable with data from Barriers and Incentives to Labour Force Participation as there are differences in scope, collection methodology and sample design (including sample size). For example, the three supplementary surveys are conducted in a particular month each year, whereas Barriers and Incentives to Labour Force Participation data are usually collected over the 12 months of a financial year (for 2004-05, the survey was conducted over 11 months). Information for the supplementary surveys is collected using the Any Responsible Adult methodology,

whereas the Barriers and Incentives topic uses personal interviewing. For more information see chapters 21 and 22 of *Labour Statistics: Concepts, Sources and Methods* (cat. no. 6102.0.55.001).

## INTERPRETABILITY

The Barriers and Incentives to Labour Force Participation publication contains detailed Explanatory Notes, Technical Notes and a Glossary that provide information on the terminology, classifications and other technical aspects associated with these statistics.

Seasonally adjusted and trend estimates are not produced. The estimates are based on information collected over the financial year. However, seasonal weighting is not undertaken.

Further commentary is often available through articles and data published in other ABS products, including:

- *Australian Labour Market Statistics* (cat. no. 6105.0) - refer to appendix 2 for past articles.
- *Australian Social Trends* (cat. no. 4102.0) - refer to the Cumulative list of articles for past articles.
- *Labour Statistics: Concepts, Sources and Methods* (cat. no. 6102.0.55.001).
- *Year Book, Australia* (cat. no. 1301.0) - refer to the 'Labour' chapter.

## ACCESSIBILITY

In addition to the PDF publication, the tables and associated RSEs will be available in spreadsheet form on the website.

Data is available on request. Note that detailed data can be subject to high relative standard errors and, in some cases, may result in data being confidentialised.

An expanded confidentialised unit record file (cat. no. 4100.0) will be produced for this survey and is expected to be released in May 2010.

For further information about these or related statistics, contact the National Information and referral centre on 1300 135 070 or Labour Market Section in Canberra on (02) 6252 7206 or by facsimile on (02) 6252 5066, or by email to <labour.statistics@abs.gov.au>

## Data quality (Technical Note)

### TECHNICAL NOTE DATA QUALITY

#### INTRODUCTION

**1** Since the estimates published in this publication are based on information obtained from occupants of a sample of dwellings, they are subject to sampling variability. That is, they may differ from those estimates that would have been produced if all dwellings had been included in the survey. One measure of the likely difference is given by the standard error (SE), which indicates the extent to which an estimate might have varied by chance because

only a sample of dwellings (or occupants) was included. There are about two chances in three (67%) that a sample estimate will differ by less than one SE from the number that would have been obtained if all dwellings had been included, and about 19 chances in 20 (95%) that the difference will be less than two SEs.

**2** Another measure of the likely difference is the relative standard error (RSE), which is obtained by expressing the SE as a percentage of the estimate.

$$\text{RSE\%} = (\text{SE/estimate}) \times 100$$

**3** RSEs for Barriers and Incentives estimates have been calculated using the Jackknife method of variance estimation. This process involves the calculation of 30 'replicate' estimates based on 30 different subsamples of the original sample. The variability of estimates obtained from these subsamples is used to estimate the sample variability surrounding the main estimate.

**4** Limited publication space does not allow for the separate indication of the SEs and/or RSEs of all the estimates in this publication. However, RSEs for all these estimates are available free-of-charge on the ABS web site [www.abs.gov.au](http://www.abs.gov.au), released in spreadsheet format as an attachment to this publication, **Barriers and Incentives to Labour Force Participation, Australia** (cat. no. 6239.0). As a guide, the population estimates and RSEs for selected data from table 1 and 2 are presented at table T1 and table T2 in this Technical Note.

**5** In the tables in this publication, only estimates (numbers, percentages, means and medians) with RSEs less than 25% are considered sufficiently reliable for most purposes. However, estimates with larger RSEs have been included and are preceded by an asterisk (e.g. \*13.5) to indicate they are subject to high SEs and should be used with caution. Estimates with RSEs greater than 50% are preceded by a double asterisk (e.g. \*\*2.1) to indicate that they are considered too unreliable for general use.

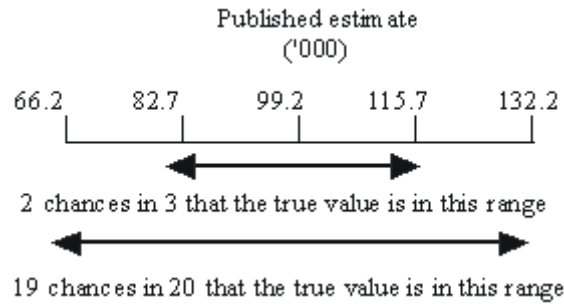
## **CALCULATION OF STANDARD ERROR AND RELATIVE STANDARD ERROR**

**6** RSEs are routinely presented as the measure of sampling error in this publication and related products. SEs can be calculated using the estimates (counts or means) and the corresponding RSEs.

**7** An example of the calculation of the SE from an RSE follows. Table T2 shows that the estimated number of females aged 18-24 years who did not prefer to work more hours is 99,200, and the RSE for this estimate is 16.6%. The SE is:

$$\begin{aligned} \text{SE of estimate} &= (\text{RSE} / 100) \times \text{estimate} \\ &= 0.166 \times 99,200 \\ &= 16,500 \text{ (rounded to the nearest 100)} \end{aligned}$$

**8** Therefore, there are about two chances in three that the value that would have been produced if all dwellings had been included in the survey will fall within the range 82,700 to 115,700 and about 19 chances in 20 that the value will fall within the range 66,200 to 132,200. This example is illustrated in the following diagram.



## Proportions and percentages

**9** Proportions and percentages formed from the ratio of two estimates are also subject to sampling errors. The size of the error depends on the accuracy of both the numerator and the denominator. A formula to approximate the RSEs of proportions not provided in the spreadsheets is given below. This formula is only valid when x is a subset of y.

$$RSE\left(\frac{x}{y}\right) = \sqrt{[RSE(x)]^2 - [RSE(y)]^2}$$

**10** Considering table T2, of the 668,300 females who worked 0-15 hours each week, 486,000 or 72.7% did not prefer to work more hours. The RSE of 486,000 is 7.9% and the RSE for 668,300 is 7.2%. Applying the above formula, the RSE for the proportion of females who did not prefer to work more hours is:

$$RSE = \sqrt{(7.9)^2 - (7.2)^2} = 3.3\%$$

**11** Therefore, the SE for the proportion of females working 0-15 hours per week who did not prefer more hours is 2.4 percentage points (= (72.7/100) x 3.3). Therefore, there are about two chances in three that the proportion of females working 0-15 hours per week who did not prefer more hours is between 70.3% and 75.1%, and 19 chances in 20 that the proportion is within the range 67.9% to 77.5%.

## Sums or Differences between estimates

**12** Published estimates may also be used to calculate the sum of, or difference between, two survey estimates (of numbers, means or percentages) where these are not provided in the spreadsheets. Such estimates are also subject to sampling error.

**13** The sampling error of the difference between two estimates depends on their SEs and the relationship (correlation) between them. An approximate SE of the difference between two estimates (x-y) may be calculated by the following formula:

$$SE(x-y) = \sqrt{[SE(x)]^2 + [SE(y)]^2}$$

**14** The sampling error of the sum of two estimates is calculated in a similar way. An approximate SE of the sum of two estimates (x + y) may be calculated by the following formula:

$$SE(x+y) = \sqrt{[SE(x)]^2 + [SE(y)]^2}$$

**15** An example follows. From paragraph 7 the estimated number of females aged 18-24 years who did not prefer to work more hours is 99,200 and the SE is 16,500. From table T2, the estimate of females aged 25-34 years who did not prefer to work more hours is 70,000,

and the SE is 13,090. The estimate of females aged 18-34 years who preferred not to work more hours is:

$$99,200 + 70,000 = 169,200$$

**16** The SE of the estimate of females aged 18-34 years who did not prefer to work more hours is:

$$SE = \sqrt{(16,500)^2 + (13,090)^2} = 21,100(\text{rounded})$$

**17** Therefore, there are about two chances in three that the value that would have been produced if all dwellings had been included in the survey will fall within the range 148,100 to 190,300 and about 19 chances in 20 that the value will fall within the range 127,000 to 211,400.

**18** While these formulae will only be exact for sums of, or differences between, separate and uncorrelated characteristics or subpopulations, it is expected to provide a good approximation for all sums or differences likely to be of interest in this publication.

## SELECTED ESTIMATES AND RSES

### T1: PERSONS AGED 18 YEARS AND OVER , Labour force status-By sex

	Males	Females	Persons
ESTIMATES ('000)			
Persons in the labour force	6 063.0	5 015.4	11 078.4
Employed	5 870.1	4 795.7	10 665.7
Persons who usually worked 16 hours or more per week	5 629.0	4 127.4	9 756.4
Persons who usually worked 0-15 hours per week	241.1	668.3	909.3
Preferred to work more hours	63.5	182.3	245.8
Available to start work with more hours(a)	58.0	160.7	218.7
Looked for more hours	*35.2	77.7	112.8
Did not look for more hours	22.8	83.1	105.9
Not available to start work with more hours	**5.5	*21.6	*27.0
Did not prefer to work more hours(b)	177.6	486.0	663.6
Unemployed	192.9	219.7	412.7
Persons not in the labour force	1 844.8	3 162.0	5 006.8
Wanted a paid job(c)	376.1	683.7	1 059.8
Available to start work(a)	262.3	466.3	728.7
Actively looked for work(d)	*16.1	*24.9	41.1
Did not actively look for work(e)	246.2	441.4	687.6
Not available or did not know if available to start work	113.8	217.3	331.1
Did not want a paid job	1 468.7	2 478.4	3 947.0
<b>Total</b>	<b>7 907.8</b>	<b>8 177.4</b>	<b>16 085.2</b>
RSES OF ESTIMATES (%)			
Persons in the labour force	0.7	1.2	0.7
Employed	0.6	1.2	0.7
Persons who usually worked 16 hours or more per week	0.7	1.7	0.8
Persons who usually worked 0-15 hours per week	9.5	7.2	6.3
Preferred to work more hours	18.4	12.3	8.1



Available to start work with more hours(a)	21.0	11.8	7.6
Looked for more hours	32.4	18.5	12.4
Did not look for more hours	24.7	17.5	13.0
Not available to start work with more hours	64.5	34.6	34.3
Did not prefer to work more hours(b)	11.5	7.9	7.2
Unemployed	12.7	10.3	7.5
Persons not in the labour force	2.1	1.9	1.6
Wanted a paid job(c)	6.7	4.0	3.4
Available to start work(a)	8.2	5.6	4.5
Actively looked for work(d)	29.1	26.9	21.6
Did not actively look for work(e)	8.2	5.4	4.2
Not available or did not know if available to start work	14.0	8.7	6.3
Did not want a paid job	2.4	2.4	1.9
<b>Total</b>	-	-	-

\* estimate has a relative standard error of 25% to 50% and should be used with caution

\*\* estimate has a relative standard error greater than 50% and is considered too unreliable for general use

- nil or rounded to zero (including null cells)

(a) Availability refers to in the reference week or within four weeks.

(b) Includes people who reported 'Did not know'.

(c) Includes people who reported 'Maybe/depends'.

(d) These people were not available to start work in the reference week so are defined as not in the labour force rather than unemployed.

(e) Includes 26,200 people (12,100 men and 14,100 women) who wanted a paid job and reported 'Looked, not actively'.

## T2 ESTIMATES: PERSONS AGED 18 YEARS AND OVER, USUALLY WORKED 0-15 HOURS PER WEEK OR WERE NOT EMPLOYED, Whether wanted a job or more hours- By age

	PERSONS WHO USUALLY WORKED 0-15 HOURS PER WEEK			PERSONS NOT IN THE LABOUR FORCE			Total
	Preferred to work more hours	Did not prefer to work more hours(a)	TotalUnemployed	Wanted a paid job(b)	Did not want a paid job(a)		
ESTIMATES ('000)							
Males							
18-24	*31.6	71.0	102.7	72.1	68.8	80.7	149.5
25-34	**1.9	**14.1	**16.0	53.4	48.1	*40.1	88.2
35-44	*5.6	**5.2	*10.7	36.5	44.6	50.5	95.1
45-54	*5.2	*11.5	*16.7	*16.3	53.8	88.9	142.7
55-64	*15.3	34.9	50.2	*13.5	83.2	265.5	348.7
65 and over	*3.8	41.0	44.8	**1.2	77.6	943.0	1 020.6
Total	63.5	177.6	241.1	192.9	376.1	1 468.7	1 844.8
Females							
18-24	*34.0	99.2	133.2	65.5	115.9	123.3	239.2
25-34	33.5	70.0	103.6	55.6	129.7	235.2	364.9
35-44	50.0	111.8	161.8	47.5	148.9	222.5	371.4
45-54	*43.3	88.2	131.5	36.5	115.7	168.9	284.6
55-64	20.8	82.7	103.4	*13.8	100.0	484.8	584.8
65 and over	**0.7	34.0	34.7	**0.8	73.5	1 243.6	1 317.1
Total	182.3	486.0	668.3	219.7	683.7	2 478.4	3 162.0
Persons							
18-24	65.6	170.2	235.8	137.5	184.7	204.0	388.7
25-34	35.5	84.1	119.6	108.9	177.8	275.3	453.1
35-44	55.6	117.0	172.6	84.1	193.5	273.0	466.4
45-54	*48.5	99.7	148.2	52.7	169.5	257.8	427.3
55-64	36.1	117.6	153.7	27.4	183.2	750.3	933.5
65 and over	*4.5	75.0	79.5	**2.0	151.1	2 186.6	2 337.7

<b>Total</b>	<b>245.8</b>	<b>663.6</b>	<b>909.3</b>	<b>412.7</b>	<b>1 059.8</b>	<b>3 947.0</b>	<b>5 006.8</b>
<b>RSES OF ESTIMATES (%)</b>							
<b>Males</b>							
18-24	29.3	23.0	17.4	22.5	24.4	16.2	16.7
25-34	90.3	62.6	55.8	24.5	23.9	26.3	17.7
35-44	37.0	59.5	31.6	19.5	19.0	14.7	11.9
45-54	47.1	48.4	33.8	31.6	15.6	15.9	12.7
55-64	29.8	22.0	17.8	30.5	12.8	6.4	5.4
65 and over	49.0	16.8	15.7	101.8	13.6	2.5	1.8
<i>Total</i>	<i>18.4</i>	<i>11.5</i>	<i>9.5</i>	<i>12.7</i>	<i>6.7</i>	<i>2.4</i>	<i>2.1</i>
<b>Females</b>							
18-24	29.3	16.6	11.3	21.2	15.4	15.3	9.5
25-34	22.7	18.7	14.9	14.7	11.4	7.6	6.6
35-44	23.9	11.5	11.9	21.4	9.3	8.0	6.6
45-54	32.8	11.8	13.4	22.1	13.5	14.6	9.3
55-64	23.4	14.3	13.0	40.8	12.6	5.5	4.0
65 and over	102.7	20.5	19.9	101.2	13.7	1.1	0.9
<i>Total</i>	<i>12.3</i>	<i>7.9</i>	<i>7.2</i>	<i>10.3</i>	<i>4.0</i>	<i>2.4</i>	<i>1.9</i>
<b>Persons</b>							
18-24	16.3	14.2	9.4	14.6	12.4	11.4	8.7
25-34	21.2	17.2	13.1	12.6	9.9	7.5	6.2
35-44	23.1	10.9	11.2	14.4	8.5	7.7	5.9
45-54	28.9	11.8	13.2	16.5	10.1	9.5	6.8
55-64	17.5	12.4	12.0	23.6	9.5	4.1	3.4
65 and over	43.8	14.4	13.6	71.1	9.9	1.4	1.1
<b>Total</b>	<b>8.1</b>	<b>7.2</b>	<b>6.3</b>	<b>7.5</b>	<b>3.4</b>	<b>1.9</b>	<b>1.6</b>

\* estimate has a relative standard error of 25% to 50% and should be used with caution

\*\* estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) Includes people who reported 'Did not know'.

(b) Includes people who reported 'Maybe/it depends'.

© Commonwealth of Australia

All data and other material produced by the Australian Bureau of Statistics (ABS) constitutes Commonwealth copyright administered by the ABS. The ABS reserves the right to set out the terms and conditions for the use of such material. Unless otherwise noted, all material on this website – except the ABS logo, the Commonwealth Coat of Arms, and any material protected by a trade mark – is licensed under a Creative Commons Attribution 2.5 Australia licence